



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,236	06/16/2005	Takeharu Muramatsu	1245-0285PUS1	9237
2252	7590	07/21/2008		
BIRCH STEWART KOLASCH & BIRCH			EXAMINER	
PO BOX 747			TRAIL, ALLYSON NUEL	
FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			2876	
NOTIFICATION DATE	DELIVERY MODE			
07/21/2008	ELECTRONIC			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,236	<b>Applicant(s)</b> MURAMATSU, TAKEHARU
	<b>Examiner</b> ALLYSON N. TRAIL	<b>Art Unit</b> 2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 25-42 is/are pending in the application.  
 4a) Of the above claim(s) 30-32 and 39-42 is/are withdrawn from consideration.  
 5) Claim(s) 33-38 is/are allowed.  
 6) Claim(s) 25 and 26 is/are rejected.  
 7) Claim(s) 27-29 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 16 June 2005 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>0/05/06, 12/06, 3/07, 7/07, 2/08</u>                          | 6) <input type="checkbox"/> Other: _____                          |



**DETAILED ACTION**

***Response to Election/Restriction***

1. Receipt is acknowledged of the Applicant's response to the restriction requirement filed April 16, 2008, wherein claims 25-29 and 33-38 have been elected.

***Information Disclosure Statement***

2. The Information Disclosure Statements filed on June 16, 2005, April 24, 2006, December 22, 2006, March 22, 2007, July 24, 2007, and February 21, 2008 have been considered. Initialed copies of each Form 1449 are enclosed herewith.

***Claim Objections***

3. Claims 33 and 35 are objected to because of the following informalities:  
  
Re claim 33, line 10: replace, "the adjacency" with --an adjacency--.  
  
It is believed that claim 35 should depend from claim 33 instead of claim 25.  
  
Claim 35 recites "the adjacency relationship of the bars", which is a limitation discussed in claim 35 and not claim 25.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 25 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma et al (6,674,919), hereinafter Ma.

With respect to claim 25, Ma discloses a barcode recognition apparatus wherein the barcode is recognized using a method discussed in the abstract. The method includes a preprocessing means for determining an edge portion of an input image. Specifically Ma teaches, "a method of calculating a skew angle for a two-dimensional barcode, in which the horizontal or vertical edges within the barcode are located, preferably using a finite state recognizer, and an edge array identifying the horizontal or vertical edges is generated." Ma further teaches a binarization process means for binarizing the input image, "next, the edge lines within the edge array are identified and traced, and any segments of edge lines within the edge array which are perpendicularly connected are separated." Ma also teaches transforming the edge portion into a histogram, "the slope for each edge line within the edge array is calculated, preferably using linear regression techniques. In the preferred embodiment, a discrete histogram of the slopes is generated."

Ma discusses figure 2 in column 4, lines, 34-51. Figure 2 illustrates the steps involved in the decoding process for a two-dimensional barcode printed on a document. During the decoding process, the document containing the two-dimensional barcode printed thereon is scanned at step 30. The scanned image is then subjected to a thresholding step 32 (i.e., the pixel-based gray-scale image created by the scanning process is converted to a binary, e.g., black and white, image), the two-dimensional barcode is located within the scanned image at step 34, the skew angle of the two-

dimensional barcode is estimated at step 36, the two-dimensional barcode is deskewed (labeled) at step 38, the bits within the two-dimensional barcode are read at step 40, and post-processing (e.g., error-correction) is performed at step 42." The pixel-based gray-scale is considered to be applicant's histogram of brightness.

With respect to claim 26, Ma discloses in column 4, lines 42-45 that the scanned image is then subjected to a thresholding step 32, wherein a threshold value is determined.

***Allowable Subject Matter***

6. Claims 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Claims 33-38 are allowable over prior art (pending the correction of the minor objections on claims 33 and 35).

The following is an examiner's reason for allowance: Although Ma teaches a barcode recognition apparatus including a preprocessing means for determining an edge portion of an input image and transforming the edge portion into a histogram of brightness, a binarization process means for binarizing the preprocessed input image, a labeling means for labeling the binarized input image, a barcode field extracting means for extracting a barcode field from the labeled input image, and lastly a barcode recognizing means for recognizing a barcode from the extracted barcode field, the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific features of claims 27-29 and 33-38 of the

present claimed invention. Specifically, prior art fails to teach the barcode recognition apparatus, wherein the binarization process means employs a discriminant analysis method as a method for determining a threshold value in the binarization of an image. Prior art further fails to teach the barcode recognition apparatus, wherein the labeling means performs labeling by allocating individual numerical value names to each of patterns that are connected to the input image. Lastly, although Ma teaches many of the claimed limitations of claim 33, prior art fails to specifically teach the barcode recognition apparatus' preprocessing means using a camera and further fails to teach the barcode recognizing means for recognizing a barcode from the extracted barcode field, wherein as a condition of an adjacency of bars in the barcode, a relative value with respect to the widths of the bars is determined to be the threshold value. The above limitations are not disclosed in prior art and moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Lopresti et al (5,703,972).
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (571) 273-8300.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.trail@uspto.gov].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

/Allyson N Trail/  
Allyson N. Trail  
Patent Examiner  
Art Unit 2876

July 16, 2008